AMSAT News Service Weekly Bulletins
Issue: ANS-246
Date: 2023-09-03
Sources: amsat-ans-2023-ans-246-weekly-hyperkitty-af7af72df4.txt

---

AMSAT NEWS SERVICE
ANS-246

In this edition:

* Astronaut Hams Complete ISS Crew Transition
* AMSAT SA Space Symposium to be Held Online
* All South African Grids Roved on Satellite
* VUCC Satellite Standings -- September 2023
* Japan Scrubs Launch of X-Ray Telescope and Moon Lander
* India's Lunar Lander Sparks Interest in the Moon
* ARISS News
* Upcoming Satellite Operations
* Hamfests, Conventions, Maker Faires, and Other Events
* Satellite Shorts From All Over

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, the Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor [at] amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see: https://mailman.amsat.org/postorius/lists/ans.amsat.org/

ANS-246 AMSAT News Service Weekly Bulletins

To: All RADIO AMATEURS
From: Radio Amateur Satellite Corporation
712 H Street NE, Suite 1653
Washington, DC 20002

DATE 2023 Sep 03

Astronaut Hams Complete ISS Crew Transition

The eleven orbital residents aboard the International Space Station (ISS) spent this week gearing up for a crew split as the four newest members continue to settle into their daily routines in weightlessness and four other Expedition 69 crew members prepare for their ride home to Earth.

Two crews are in the process of swapping places as NASA astronauts Woody Hoburg, KB3HTZ, and Stephen Bowen, KI5BKB, along with UAE (United Arab Emirates) Flight Engineer Sultan Alneyadi, KI5VTV, and Roscosmos Flight Engineer Andrey Fedyaev, spent most of their time handing over responsibilities, including training new crew members on station procedures and the use of station exercise equipment.

Sunday, August 27 saw the arrival of NASA astronaut Jasmin Moghbeli,

KI5WSL, Danish ESA astronaut Andreas Mogensen, KG5GCZ, JAXA astronaut Satoshi Furukawa, KE5DAW, and Roscosmos cosmonaut Konstantin Borisov to the station as the SpaceX Dragon Endurance Spacecraft docked to the Harmony module. The international quartet is quickly adjusting to orbital tasks and spent some of Thursday on the firsts of many science and maintenance activities they'll perform in microgravity during their six-month stay.

The four Crew-6 members -- Hoburg, Bowen, Alneyadi and Fedyaev -- are nearing the end of their six-month research mission and spent the afternoon prepping and packing SpaceX's Dragon Endeavour spacecraft for departure no earlier than Sept. 2. This will bring the space station's population down to seven before further crew swaps take place in September.

[As always, amateur radio operations on the ISS are suspended during docking and undocking maneuvers, as well as during spacewalks (EVAs). Amateurs on earth should expect interruptions of the ARISS FM repeater and ARISS digipeater this weekend.]

Astronaught Frank Rubio, and cosmonauts Sergey Prokopyev and Dimitri Petelin will soon reach a year in space after arriving to the station on Sept. 21, 2022, and are gearing up for their trek home in late September. The three long-time station residents continued to help with crew handover activities on Thursday and completed some station maintenance tasks of their own.

[ANS thanks NASA for the above information]

+=+=+=

All South African Grids Roved on Satellite

Tom Ambrose, ZS1TA, has done one of those difficult roves that took several years to complete. He has worked All South African Grids which has never been done before on any band or mode let alone satellite.

Although there is no award, he has roved from 83 different ZS grids. Tom roved from the mountains to the sea and coast to coast. He used various antennas in including small Yagi's and dual band verticals. The satellites PRIMARILY used were AO-91 and AO-92, with occasional contacts on SO-50, using FM to encourage new satellite operators.

FO-29 and AO-07 also featured in the mix. There are not that many satellite operators in ZS however, when he started
operating many old and new hams got on to make a contact and follow him on his trips.

Now comes the more difficult part. In order to receive VUCC/r, Tom has to go to another country to do some roves. Tom is
looking at going through Namibia for that.

Congratulations to Tom for this feat and looking forward to processing his VUCC/r which will be a first for a ZS station.

[ANS thanks Bruce Paige, KK5DO, AMSAT Board Member and Director Contests and Awards, for the above information]

+=+=+=

JN2QCV	428	507
JH8FIH	214	505
N5EKO	349	500
JG6CDH	401	468
IK7FMQ	426	453
KO9A	321	423
N8URE (FM19)	389	409
EA3TA	350	400
F6GLJ	312	400
IK3ITB	300	400
N3CAL	270	352
JA1GZK	300	350
JH0BBE	321	322
JS1LQI	259	318
N9ZTS	231	302
K3HPA	275	300
W7YED	254	300
HC2FG	239	276
N6PAZ	247	262
KC9ELU	251	254
OE7BJT	200	250
ZS4TX	New	241
XE1YDK	100	217
JE1LFX	New	216
ZS2BK	186	213
ON4CCN	New	208
XE2YWH/1	New	207
JA6SZV	110	205
DL1BM	100	202
JI5USJ	152	200
PU5DDC	181	200
N8URE (EL95)	163	179
AD2DD	150	175
KP4MV	100	175
NK0S	164	167
KH6WI	102	155
ZS1TA	New	152
JA9OJM	100	128
N8URE (EN61)	102	121
XE1BMG	New	120
N7GR	New	113
N2UO	New	108
JF3MKC	New	103
KE1IU	New	102
DJ7NT	New	100
HB9HZC	New	100

Congratulations to the new VUCC holders.
ON4CCN is first VUCC Satellite holder from Belgium
ZS1TA is first VUCC Satellite holder from JF95
DJ7NT is first VUCC Satellite holder from JO30
JF3MKC is first VUCC Satellite holder from PM74
ZS4TX is first VUCC Satellite holder from KG30

[ANS thanks Jon Goering, N7AZ, for the above information]

Japan Scrubs Launch of X-Ray Telescope and Moon Lander

JAXA, the Japanese space agency, is attempting to launch two very different space missions from one rocket: a new X-ray telescope that will look at some of the hottest spots in our universe, and a small experimental robotic

moon lander. But the missions have had difficulty getting off the ground.

The telescope is called X-ray Imaging and Spectroscopy Mission, or XRISM for short (pronounced like the word “chrism”). The lunar mission is called Smart Lander for Investigating Moon, or SLIM. XRISM and SLIM were expected to launch from an H-IIA rocket from Japan’s Tanegashima Space Center on Monday, August 28 at 00:26 UTC.

But less than 30 minutes before the scheduled launch, JAXA announced that the launch had been canceled for the day “due to inclement weather.” While JAXA had moments before said the weather appeared “calm,” winds at higher altitudes above the launch site were too severe for a safe launch according to a social media post by Mitsubishi Heavy Industries, which built and operates the rocket that is being used for the flight.

Poor weather had also led to an earlier postponement of the flight on Saturday. The Japanese space agency has not yet announced when the next launch attempt would occur. But it has a reserved launch period through Sept. 15.

XRISM is a telescope about the size of a bus. JAXA is collaborating with NASA on the mission, with additional participation from the European Space Agency. XRISM will study cosmic X-rays, which unlike other wavelengths of light can only be detected from above Earth’s atmosphere, which shields us from the harmful radiation.

SLIM is a compact robotic moon lander that weighs more than 1,500 pounds at launch. The lander’s mission is not primarily scientific. Rather, it is to demonstrate a pinpoint navigation system, aiming to set down within about the length of a football field of a targeted landing site. Developing better landing technology would enable future spacecraft to land closer to rugged terrain that is of scientific interest.

The space telescope will be placed in an orbit approximately 350 miles above Earth. Once there, researchers will spend the next few months turning the instruments on and running tests of their performance. Science operations will begin in January, and initial results from this data are expected in about a year.

SLIM is headed toward the Shioli crater on the moon’s near side. The spacecraft will be taking a long, roundabout journey of at least four months that requires less propellant. SLIM will take several months to reach lunar orbit, then spend a month circling the moon before attempting to set down on the surface.

[ANS thanks The New York Times for the above information]

+=+=+=

the TLE bulletin files are updated daily. TLE bulletin files are updated to add or remove satellites as necessary Thursday evenings around 2300 UTC, or more frequently if new high interest satellites are launched. More information may be found at https://www.amsat.org/keplerian-elements-resources/

This week there are no additions or deletions to the AMSAT TLE distribution.

[ANS thanks Joe Fitzgerald, KM1P, AMSAT Orbital Elements page manager, for the above information]

India's Lunar Lander Sparks Interest in the Moon

Chandrayaan-3’s lander and rover are safely on the Moon and their scientific work has begun. On August 23, the Vikram lander completed a successful autonomous descent and landing to touch down near the Moon’s south pole, only about 350 meters away from its target. On August 26, the Pragyan successfully rolled onto the lunar surface and navigated its first small crater.

With this success, India became the fourth nation (after the U.S., Soviet Russia, and China) to soft-land on the Moon. Not only is this mission a success for India, but is humanity’s closest landing to the lunar south pole -- an area of great interest to science, as there is speculation that water ice may be found in this area of the moon.

Landing a bit after sunrise on a lunar day, the Vikram lander with its four science payloads, and its onboard six-wheeled Pragyan rover with an additional two 2 payloads, have 14 Earth days to do some serious science together. All payloads have now been switched on, including ChaSTE onboard the lander, which measures the change in temperature with depth -- from ~50° C at the surface to -10° C over a depth of 8 cm in an initial test.

India's successful landing took place just days after Luna 25, Russia’s first post-Soviet lunar lander, suffered an anomaly during an orbit-lowering maneuver and crashed into the Moon. That leaves scientist eager for data from the Chandrayaan-3 mission.

[ANS thanks The Orbital Index for the above information]

ARISS NEWS

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

COMPLETED CONTACTS
Augusta Preparatory Day School, Augusta, GA, direct via K4RGK
The ISS callsign is presently scheduled to be NA1SS
The scheduled crewmember is Steve Bowen KI5BKB
The ARISS mentor is AA4KN
Contact was successful: Thu 2023-08-31 13:51:28 UTC 64 degrees maximum elevation
Congratulations to the Augusta Preparatory Day School students, Steve, K4RGK, and mentor AA4KN!

UPCOMING CONTACTS
Egemen Yildiz Secondary School, İzmir, Turkey, telebridge via K6DUE
The ISS callsign is presently scheduled to be NA1SS

The scheduled crewmember is Jasmin Moghbeli KI5WSL
The ARISS mentor is IZ2GOJ
Contact is go for: Wed 2023-09-06 10:35:27 UTC 73 degrees maximum elevation

The crossband repeater continues to be active (145.990 MHz up {PL 67} & 437.800 MHz down). If any crewmember is so inclined, all they have to do is pick up the microphone, raise the volume up, and talk on the crossband repeater. So give a listen, you just never know.

The packet system is also active (145.825 MHz up & down).

As always, if there is an EVA, a docking, or an undocking; the ARISS radios are turned off as part of the safety protocol.

Note, all times are approximate. It is recommended that you do your own orbital prediction or start listening about 10 minutes before the listed time.

The latest information on the operation mode can be found at https://www.ariss.org/current-status-of-iss-stations.html

The latest list of frequencies in use can be found at https://www.ariss.org/contact-the-iss.html

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

Upcoming Satellite Operations

No rovers have reported any upcoming operations.

To include your satellite roving plans in the AMSAT News Service Weekly bulletins, send them to Ian, K5ZM at k5zm (at) comcast (dot) net at least a couple of weeks in advance. Upcoming satellite operations are updated weekly on the AMSAT Upcoming Satellite Operations page but may expire before the next AMSAT News Service bulletin is released. You can watch for the latest roving information to become available at https://www.amsat.org/satellite-info/upcoming-satellite-operations.

A growing number of satellite rovers are currently engaged in sharing their grid square activations on https://hams.at. By visiting the website, you gain easy access to comprehensive information about the operators responsible for activating specific grid squares. Additionally, you have the ability to assess the match score between yourself and a particular rover for a given pass, while also being able to identify the upcoming satellite passes that are accessible from your location.

[ANS thanks Ian Parsons, K5ZM, AMSAT rover page manager, for the above information]

Hamfests, Conventions, Maker Faires, and Other Events

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

+ AMSAT-DL Festive Conference & Symposium (50 Years)
September 15-17, 2023
Bochum Observatory
Blankensteiner Str. 200A, 44797 Bochum, Germany

+ 2023 AMSAT SA Space Symposium (online only)
Saturday, 23 September 2023
Registration at https://bit.ly/45SynOJ

+ 2023 AMSAT-UK Colloquium & RSGB Convention
October 14-15, 2023
Kents Hill Park Conference Centre
Milton Keynes MK7 6BZ, United Kingdom

+ ARRL Minnesota State Convention
Saturday, October 14
Hennepin Technical College
9000 Brooklyn Blvd.
Brooklyn Park, Minnesota
http://mnconvention.org

+ 41st AMSAT Space Symposium & Annual General Meeting
October 20-21, 2023
Sheraton DFW Airport Hotel
4440 W John Carpenter Fwy, Irving, TX 75063

AMSAT Ambassador Clint Bradford, K6LCS, says,

"Think a 75-minute presentation on "working the easy satellites" would be appropriate for your club or event? Let me know by emailing me at k6lcsclint (at) gmail (dot) com or calling me at 909-999-SATS (7287)!"

Clint has NEVER given the exact same show twice: EACH of the 150+ presentations so far has been customized/tailored to their audiences.

[ANS thanks Clint Bradford, K6LCS, and AMSAT for the above information]

Satellite Shorts From All Over

+ Congratulations to Jérôme Lecuyer, F4DXV in JN04JR35PD, and Bill Attwood, VE6WK in DO20WV58DO, on setting the new FO-29 distance record on August 26, eclipsing the prior record set by KE9AJ and EB1AO by 46 km! See https://www.amsat.org/satellite-distance-records/ for the complete list of current satellite distance records. (ANS thanks Paul Stoetzer, N8HM, AMSAT Executive VP and Records Manager, for the above information)

+ Since satellite operators all have VHF and UHF equipment and antennas of some sort, you might try aiming at the horizon for a while on the weekend of September 9-11, and seeing what contacts can be made without a bird overhead. The ARRL Septmeber VHF Contest begins at 1800z on Saturday and ends at 0259z on Monday (actually, Sunday night in North America). There is even a category for FM only. For details, see https://www.arrl.org/september-vhf?_zs=s8mxl&_zl=lcFg2 (ANS thanks ARRL for the above information)

+ Curbing methane release is crucial to slowing climate change and requires detecting methane leaks via space and air-based sensors, and holding emitters accountable. This week, Orbital Sidekick utilized its hyperspectral satellite constellation GHOSt to detect methane plumes from oil well pads. And, data from JPL’s EMIT sensor on the ISS spotted 22 methane plumes released during an extreme heat wave in Texas. There are more methane sleuthing satellites on the horizon: GHGSat is adding 4 more satellites to their constellation that monitor facility leaks with ~25m spatial resolution today, and MethaneSat, set to launch in early 2024, is planning to observe state-sized areas to identify specific sources of methane from anywhere in the world, and will also freely release the data,

where it can be post-processed by AI. (ANS thank The Orbital Index for the above information)

+ Virgin Galactic's announced on August 28 that it is targeting Friday, Sept. 8 for the launch of Galactic 03, its third commercial spaceflight and eighth space mission overall. Galactic 03 will take three paying customers to and from suborbital space from Spaceport America in New Mexico. Virgin Galactic hasn't identified those passengers yet, but we know they've been ticket-holders for a long time. They'll fly with Colin Bennett, one of Virgin Galactic's astronaut instructors. (ANS thanks Space.com for the above information)

+ NASA officials sounded an alarm Tuesday, August 29, about the agency's Deep Space Network, a collection of antennas in California, Spain, and Australia used to maintain contact with missions scattered across the Solar System. Everything from NASA's Artemis missions to the Moon to the Voyager probes in interstellar space rely on the Deep Space Network (DSN) to receive commands and transmit data back to Earth. There are currently around 40 missions that rely on the DSN's antennas to stay in communication with controllers and scientists back on Earth. Another 40-plus missions will join the roster over the next decade or so, and many of the 40 missions currently using time on the network will likely still be operating over that time. “We have reached a really critical point on the DSN’s aging infrastructure," said Sandra Cauffman, deputy director of NASA's astrophysics division. (ANS thanks ARS Technica for the above informaton)

Join AMSAT today at https://launch.amsat.org/

In addition to regular membership, AMSAT offers membership to:

* Societies (a recognized group, clubs or organization).
* Primary and secondary school students are eligible for membership at one-half the standard yearly rate.
* Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status.
* Memberships are available for annual and lifetime terms.

Contact info [at] amsat.org for additional membership information.

73 and remember to help Keep Amateur Radio in Space!

This week's ANS Editor, Mark Johns, KØJM
k0jm [at] amsat.org